

EVOLUTION OF A FLORA: EARLY CONNECTICUT VALLEY BOTANISTS

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ABSTRACT

The first known botanical studies of the Connecticut Valley in western Massachusetts were initiated during the decade 1810–19. Four area physicians, David Hunt of Northampton (1773–1837), Jacob Porter of Plainfield (1783–1846), Dennis Cooley of Deerfield (1789–1860), and Stephen West Williams of Deerfield (1790–1855), kept extensive personal herbaria and corresponded with Amos Eaton at Williams College and Benjamin Silliman at Yale. Porter, Cooley, and Williams published phenological accounts of local vegetation and other scientific observations. Beginning around 1816, Edward Hitchcock (1793–1864) commenced botanical studies at Deerfield that culminated in the first flora of the region, published at Amherst in 1829. Hitchcock acknowledged Cooley and Williams as “early coadjutors in this work,” which served as a basis for Hitchcock’s 1833 compilation of the Massachusetts flora.

Key Words: botanical history, Connecticut Valley, Massachusetts, David Hunt, Jacob Porter, Dennis Cooley, Stephen West Williams, Edward Hitchcock, Massachusetts flora

INTRODUCTION

The early 19th Century in both Europe and North America is “remarkable for the simultaneous appearance of groups of highly intelligent leaders with such broad interests from politics to philosophy and science that their impact on the future outweighed their numbers” (Billings, 1985). Nonetheless, sources of information on the development of botany in the Connecticut Valley in western Massachusetts throughout this period are scattered, fragmentary, occasionally contradictory, and often accessible only from archival sources and special collections. The purpose of this study is to assemble and synthesize information on botanical activities in the region from the earliest known studies through the completion of its first complete flora, Edward Hitchcock’s “Catalogue of Plants Growing Without Cultivation in the Vicinity of Amherst College” (Hitchcock, 1829), a list which served as a major source for the first compilation of the Massachusetts flora (Hitchcock, 1833).

Hitchcock, by then a prominent geologist who had served as president of Amherst College, observed in his reminiscences

(Hitchcock, 1863) that Amos Eaton, who had lectured in Amherst and Northampton, Massachusetts in 1816 and 1817, was “the chief agent of introducing a taste for [natural history] into the Connecticut Valley” and that at the time “Dr. Stephen Williams, Dr. Dennis Cooley, and myself, all of Deerfield, took hold of mineralogy and botany with great zeal.” Widely regarded as a charismatic teacher (Ballard, 1897), Eaton had in 1817 just recently published the first edition of *A Manual of Botany for the Northern States* (Eaton, 1817). This work described and classified all genera known to occur north of Virginia according to a modified version of the Linnean system and included brief descriptions of the more common species with notes on their occurrence in the vicinity of Williams College and elsewhere.

Despite Hitchcock’s recollections, botanical work had been in progress in the Connecticut Valley for some years prior to the time of Eaton’s lectures, and when Eaton published a much expanded and enlarged second edition of his manual in 1818, he was able to include within its catalogue localities for at least 91 species, indicated by the letter “N.,” that occurred along the Connecticut River between Northampton and Deerfield. These were attributed to “Dr. D. Hunt, and Drs. Williams and Cooley (*sic*) of Deerfield” (Eaton, 1818).

The work of Eaton, which was largely done outside the area, and the geological contributions of Edward Hitchcock have been studied in some detail (Ballard, 1897; Foose and Lancaster, 1981; Knowlton, 1897; Smallwood, 1941). In addition, Jenny (1980, 1987) has recently described the “rediscovery” of the herbarium of Stephen Williams and the “small but highly competent group of botanists” who lived in Deerfield around 1816. However, the various and inter-related botanical contributions of Hunt, Williams, and Cooley, as well as those of Jacob Porter, whose plant lists from the area were later acknowledged both by Eaton (1822, 1824) and by Torrey and Gray (1838–40), are less well known, as is Hitchcock’s early work in botany. In this paper, Hunt, Porter, Cooley, Williams, and Hitchcock are discussed chronologically according to their dates of birth. This chronological order is roughly correlated with the increasing importance of their contributions to the development of botanical science in the region and with the greater amount of information available on the later individuals.

DAVID HUNT

Information regarding the botanical activities of David Hunt (1773–1837) is particularly scarce. Hunt was a member of a well-established Northampton family and sufficiently prominent as a physician to be included by Stephen Williams in the *American Medical Biography* (Williams, 1845). Hunt was also described, in a tribute written long after his death, as “a botanist and mineralogist of considerable note” (Springfield Union, 1904). Williams, who knew Hunt personally, reported that Hunt maintained a correspondence with Benjamin Silliman and other academic scientists, belonged to several medical and scientific societies, and possessed a “cabinet of minerals” that was “rare . . . and large, for a private individual” (Williams, 1845). The *Centennial Hampshire Gazette* (1886) reprinted William’s tribute, including a portrait of Hunt (Figure 1), along with additional biographical materials by Hunt’s son Seth, who recalled that his father possessed a “large herbarium . . . very neatly and scientifically arranged and labelled, by his own hands” (Centennial Hampshire Gazette, 1886). Both David Hunt and his father Ebenezer Hunt were among the sponsors of Eaton’s 1817 course of lectures in Northampton and signed a letter of commendation, included in the introduction of Eaton (1818), expressing their “entire satisfaction” with Eaton’s work there. Although Porter (1821) reported at least one of Hunt’s observations, that “Doctor David Hunt . . . has found at Northampton, numerous specimens of the sarracenia with yellow blossoms,” Hunt apparently published nothing related to botany under his own name. Williams (1845) recalled only a single paper by Hunt in a medical journal, a paper on a case of lead poisoning, and concluded that “the productions of his pen were not numerous.”

Hunt was married for nearly 42 years to Wealthy Dickinson, a descendent of one of the first settlers of Hadley, Massachusetts. The couple had thirteen children, ten of whom reached adulthood (Centennial Hampshire Gazette, Sept. 6, 1886.) In the first of his major geological papers, Edward Hitchcock acknowledged his “particular obligations” to Hunt and to Benjamin Silliman (Hitchcock, 1818), and Hunt’s nonprofessional interests almost surely were centered more in geology than botany.

The location of Hunt’s herbarium, if it still exists, is at present



Dr. David Hunt.

Figure 1. Dr. David Hunt, reprinted from Williams (1845) in Centennial Hampshire Gazette (1886). Courtesy of Historic Northampton.

unknown. Although the Amherst College “cabinet” during Hunt’s lifetime included the only institutional herbarium in the area. Hitchcock (1863) does not mention Hunt’s specimens among the botanical materials in the collections and I have not been able to identify any Hunt specimens in the Amherst College materials incorporated in MASS in the 1950’s.

JACOB PORTER

Jacob Porter (1783–1846) was born in Abington, Massachusetts. He attended Williams College, but in 1802 transferred to Yale University, receiving an A.B. degree there in 1803 (Dexter, 1885–1912). He then moved to Plainfield, Massachusetts where he practiced medicine for the remainder of his life. He assembled a collection of plants and minerals from the vicinity (Porter, 1834) and, according to a local historian (Dyer, 1891), “although a highly educated man, gave his attention mostly to literary pursuits, being well versed in botany and mineralogy.” In addition to poetry, translations of religious tracts, and a history and geology of Plainfield (Porter, 1834), Porter published two accounts of phenological phenomena (Porter, 1818, 1821). These were among a number of “floral calendars” published with the encouragement of Benjamin Silliman (Silliman, 1818) in the early volumes of *The American Journal of Science*. Silliman included these accounts in response to a memoir by Jacob Bigelow setting out research into “the comparative forwardness of the spring season in different parts of the United States” (Bigelow, 1818).

Plainfield is situated at an elevation of 1684 feet on the western edge of the Connecticut Valley watershed (U.S.G.S. topographic map, Plainfield Quadrangle, Franklin Co., Massachusetts), and Porter’s first calendar, was intended to “show that vegetation is considerably later on the range of mountains, on which this place is situated, than in the level parts of our country.” The paper was possibly also inspired by the well-publicized observations of Humboldt and Bonpland relating altitude to climate (Humboldt and Bonpland, 1805; Billings, 1985). Though neither author mentioned the other, Porter’s data could be compared with similar though more extensive observations from Deerfield, Massachusetts in the Connecticut Valley to the east reported by Stephen Williams (1819) in the subsequent issue of *The American Journal of Science*. Williams, for example, found *Hepatica triloba* (*H.*

americana) and *Erythronium* (*E. americanum*) in flower on April 26, 1818 in Deerfield, Massachusetts at an elevation of 140 feet (U.S.G.S. topographic map, Greenfield Quadrangle, Franklin Co, Massachusetts), while Porter reported these taxa first blooming on May 1 of that year at the higher elevation.

Porter's second and more extensive calendar covers the 1819 season and 1820 through July 30 and includes the observations on *Sarracenia* by David Hunt with notes from a trip to Northampton. The work was abbreviated by Silliman in response to "objections to highly detailed floral calendars" (editorial comment in Porter, 1821); nonetheless, the entries for 1819 alone include observations of more than 280 taxa of higher plants. These are predominantly native species along with a number of crop plants and ornamentals. For most taxa, common names are carefully assigned and often include part of a Latin binomial; the entry for May 24, 1820, for example, includes "Caulophyllum, glaucous kalmia, painted trillium and water cress" in bloom. Porter's style is occasionally "literary" ("the petals of the roundleaved violet, in particular, resemble specks of gold scattered around the path" on May 6, 1819 in one instance), and he sometimes suggests herbal remedies, including a tincture of goldenrod root in brandy as a proven cure for spitting blood. In addition to its phenological information, the value of the work lies in its listing of a wide range of species from a diversity of natural habitats and from locations, such as the banks of the Westfield River and a bog in the town of Hawley, which are still botanically important.

Porter knew and corresponded with several academic scientists of the period; these include Hitchcock, who cites several species on Porter's authority (Hitchcock, 1829), Eaton, who, in the third (1822) and later editions of his *Manual* mentions Porter's "improvements in the localities of plants . . ." from "the mountain range in Plainfield, Hawley, and Cummington, Mass." and John Torrey and Asa Gray, who include him in a list of contributors of plants from Massachusetts (Torrey and Gray, 1838–40). He was a member of several scientific societies, including the Lyceum of Natural History of New York and the Massachusetts Society for Promoting Agriculture. His first wife, Betsey Mayhew, of Williamsburg, Massachusetts, died a few months after their marriage in 1813; his second wife, Sally Reed, outlived him for many years (Dexter, 1885–1912).

DENNIS COOLEY

Two short biographical sketches of Dennis Cooley (1789–1860) were published in the decades following his death. The first and longer of these (Kenaston, 1863) consists of a two page account of Cooley's life in connection with a set of resolutions accepting Cooley's herbarium, which his widow had donated to the Michigan State Agricultural College (now Michigan State University, East Lansing). This account is consistent with genealogical data in Sheldon (1895–96). The second, a two paragraph "sketch" by Beal (1901) is inaccurate in some details, including the year of Cooley's birth.

Dennis Cooley was born in the Bloody Brook section of Deerfield, Massachusetts in 1789 (Sheldon, 1895–96). The Cooley family had been prominent in that area for many years and like Hunt, Porter, and Williams, Cooley was educated as a physician. By 1816, he was studying medicine in the office of William Stoddard Williams and his son Stephen West Williams (Williams, 1849). He received a degree from the Berkshire Medical Institution in 1822 (Beal, 1901), and reportedly, ". . . his leisure hours, during his whole course of study, were spent in pastures, woods and swamps in pursuit of botanical specimens" (Kenaston, 1863). These botanical activities led to the 1818 contributions to Eaton and a "floral calendar" for Deerfield (Cooley, 1820) which, though brief, included a chart comparing seven phenological phenomena over a five year interval, beginning in 1815.

Correspondence (now in the Amherst College Archives) between Hitchcock and Silliman and between Hitchcock and John Torrey indicates that by the early 1820's, Cooley and Hitchcock had jointly prepared a manuscript catalogue of the Deerfield flora. The fate of the Cooley/Hitchcock manuscript is considered later in this paper. However, in a letter to John Torrey (Edward Hitchcock to John Torrey, Nov. 25, 1819 in President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives) Hitchcock commented that Cooley was not appreciated by the people of Deerfield, who felt that he neglected his medical practice for his botany; and subsequently, Cooley moved to Monticello, Georgia "to seek his fortune" according to Hitchcock, who urged Silliman to provide him with introductions, if possible, to southern botanists (Edward Hitchcock to Benjamin Silliman, Oct. 17, 1822,

Box 6, Folder 4, President Edward Hitchcock Papers, Amherst College Archives).

In Georgia, Cooley practiced medicine for about three years, a period “turned to a good account in his rapidly growing Herbarium” (Kenaston, 1863). For reasons of health, he returned North and eventually relocated to Washington Township, Macomb County, Michigan in 1827, taking his plant collections with him then or at a later date. Cooley’s Massachusetts specimens alone represented, according to Hitchcock (1829), “nearly all the plants hitherto found in this district.” In Michigan, Cooley began a study of the flora of Macomb County, sending lists of plants from that area to Eaton as early as 1829 (Eaton, 1829, 1833, 1836; Eaton and Wright, 1840). He was married to Elizabeth Anderson of Deerfield in 1830; the couple had two children, both of whom died in early childhood. Elizabeth Anderson died in 1834, and in 1836, Cooley married Clarissa A. Andrews, who survived him (Kenaston, 1863; Sheldon, 1895–96). Cooley apparently spent most of his later years in Michigan; the Memorial Libraries at Deerfield possess a single letter in his hand (Dennis Cooley to Eli Cooley, June 2, 1850, Cooley Family Papers, Pocumtuck Valley Memorial Association Library, Deerfield, Massachusetts) in which he says that he had thought of visiting Deerfield, “but i suppose that folks are not enliteded there and shall not come this year.” Cooley continued the practice of medicine until 1856 and served as postmaster of Washington township until 1859 (Beal, 1901). In his reminiscences, Hitchcock (1863) reflected that Cooley “became an excellent botanist, and even at a recent date, when he died in Michigan, has pursued the subject with zest.” His herbarium when presented to the Agricultural College was estimated to contain more than 20,000 specimens and described as “especially rich in our indigenous flora” with “a large collection of tropical, Californian, and Australian species . . . Many of the plants were obtained by exchanges with Dr. Torrey, W. S. Sullivant, Dr. Dewey, John Carey, and many other celebrated Botanists, . . .” (Kenaston, 1863). Beal (1901) stated the herbarium contained around 4000 specimens, and Jenny (1987) noted that the contradiction in these estimates had not been resolved. Possibly Beal may not have included the specimens obtained by exchange in his estimate.

The Beal-Darlington herbarium at Michigan State University now contains the Cooley collection, including material from Deer-

field collected between 1817 and 1821 (Jenny, 1987; Martha Case, pers. corresp.).

STEPHEN WEST WILLIAMS

Stephen West Williams (1790–1855) was also a physician and a member of a prominent Deerfield family. He attended Deerfield Academy and then studied medicine as an apprentice to his father, William Stoddard Williams, spending one winter as a student at Columbia College in New York (Huntington, 1881; Viets, 1936). By 1816, he was “enamoured” with the field of botany, inspired by readings in the works of Barton, Bartram, Bigelow, Cutler, Eaton, Elliott, Muhlenberg, Pursh, and others (Williams, 1849). He recorded botanical observations as early as 1811 (Williams, 1819); and, along with Cooley and Hitchcock, began collecting plants about 1816. By 1817 he had compiled an herbarium that included around 500 pressed specimens (Jenny, 1980, 1987).

This 1817 herbarium was privately held until recently when its botanical interest was recognized by Roberta Poland and its identity established by William Jenny (Jenny, 1980, 1987). The herbarium is now preserved at the Pocumtuck Valley Memorial Association Library at Deerfield, Massachusetts. It contains specimens of at least 360 taxa, ranging from common garden flowers to local rarities such as *Asplenium ruta-muraria*. These are mounted, often several to a sheet, in a bound volume, and vary from whole pressed plants to small portions of a single shoot or even single flowers. The specimens are identified by Latin and/or common names either written directly on the sheet or on a slip of paper attached to the specimen. Collection data, including localities and dates, are generally lacking.

In 1818, Williams married Harriet Goodhue of Deerfield, the daughter of Joseph Goodhue, an army surgeon (Viets, 1936). About this time, Williams prepared a companion volume to his herbarium, a handwritten manuscript now owned by the Flynt Library at Historic Deerfield (Jenny, 1987). It contains indices to the common and scientific names of the specimens in the herbarium, an outline of the Linnean system, and a description of each plant listed, its medicinal properties and other characteristics. Cultural directions for garden plants such as hyacinth and lilac are given, as are materials from various authors, including

a passage from Bartram describing *Sarracenia*. Harriet Goodhue drew and painted "from nature, and from other sources" a number of original illustrations for this interesting compilation, which also includes illustrations clipped from contemporary publications such as *The Monthly Flora*.

Also around 1818, Williams sent Benjamin Silliman a box of specimens of minerals to be identified, and, in responding, Silliman encouraged both Hitchcock and Williams to contribute to *The American Journal of Science* (Benjamin Silliman to Edward Hitchcock, March 1, 1818, President Edward Hitchcock Papers, Box 6, Folder 5, Amherst College Archives). In 1819, Williams published his accounts of phenological phenomena for the years 1811, 1812, and 1818. This more original work (Williams, 1819) seemingly has been confused by Viets (1936) with the manuscript companion volume to the herbarium in the Flynt Library, which was prepared at roughly the same period. The contrast between Williams's observations in the period 1811–12 and his observations in 1818 is striking and reflects his increasing taxonomic skills and interests. In 1811, he reported a number of phenological phenomena, particularly observations upon "the time of the germination, foliation, florification and frutification" of around 60 plant taxa, providing common names for all of these and scientific names for approximately half. Of the taxa listed, over two thirds were in cultivation as either ornamentals or crop or garden plants, while the remainder were natives such as bloodroot, *Sanguinaria canadensis*, or non-native ruderals, such as the dandelion (as *Leontodon taraxacum*). In 1812, he repeated observations on many of these and included information on an additional 14 taxa. In 1818, however, in addition to continued observations on the plants previously noted, he provided data on an additional 92 species, listing all of these by Latin binomials, with common names for most. The greater number of the 92 new entries are native species taken from a diversity of natural habitats, including wetlands (for instance skunk cabbage, as *Pothos foetida*) or upland woods (*Epigaea repens*, *Trillium cernuum*).

Although, his career centered on teaching medical jurisprudence, chiefly at the Berkshire Medical Institution with stints at Willoughby University in Ohio and the Dartmouth Medical School (Viets, 1936), Williams retained a lively interest in botany for the remainder of his life. He, along with Cooley, was acknowledged by Hitchcock as "among my early coadjutors" in the 1829 Cat-

atalogue, and he reciprocally (Williams, 1849) recognized the importance of Cooley and Hitchcock and the early “botanical investigations” of Orra White, later Mrs. Hitchcock, to the development of botany in Massachusetts. He remained in communication with Amos Eaton and prepared etymologies for generic and subgeneric names that appeared in the 6th and later editions of the Eaton Manual. Throughout his career, he wrote extensively on the subject of medicinal plants (Deane, 1855); among the most important of these works was the catalogue of 319 indigenous medicinal plants of Massachusetts in Williams (1849).

As Professor of Medical Jurisprudence at the Berkshire Medical School at Pittsfield, Massachusetts, he became known as the leading medical historian and biographer of his day. He and Harriet Goodhue had four children, two daughters, both of whom prepared illustrations of medicinal plants for their father’s lectures, and two sons, one of whom died in infancy. The second son was trained as a physician in his father’s office and later settled in Laona, Illinois. Stephen Williams himself retired in 1853 to Laona, where, according to his daughter (Huntington, 1881), he spent his remaining days in study and “riding over the beautiful prairie, looking for new specimens of flowers, animals or birds.”

EDWARD HITCHCOCK

Edward Hitchcock (1793–1864), was born at Deerfield, Massachusetts, and attended Deerfield Academy. Because of weakened eyesight, he abandoned plans to attend Harvard University and took a position as principal of Deerfield Academy, a post he held from 1815–19. By his own account (Hitchcock, 1863), he began his studies in natural history about the time of Eaton’s 1816 lecture in Amherst, collecting, with Dennis Cooley, “nearly all the plants, phenogamous and cryptogamous in the valley.” In 1817, he also initiated his lifelong correspondence with Benjamin Silliman at Yale (Robinson, 1979).

In 1818, Hitchcock informed Silliman that he had collected over 800 plants in the vicinity and that 150 of these had been painted by “Miss White” (Edward Hitchcock to Benjamin Silliman, Sept. 28, 1818, President Edward Hitchcock Papers, Box 6, Folder 4, Amherst College Archives). Orra White (1796–1863)

was a native of Amherst, Massachusetts who was teaching botany, among other subjects, at Deerfield Academy and who had already achieved some degree of success as a botanical illustrator (Jenny, 1987; Worman, 1989). In 1818, Hitchcock also undertook a course of studies for the ministry.

In 1819, Hitchcock initiated a correspondence with John Torrey, requesting help with the identification of a specimen of *Potentilla* (Edward Hitchcock to John Torrey, July 20, 1819, President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives). The following year he and Dennis Cooley promised Torrey a list of plants "growing spontaneously in Deerfield" (Edward Hitchcock to John Torrey, April 28, 1820, President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives) which had been sent by the end of the summer (Edward Hitchcock to John Torrey, September 8, 1820, President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives).

Shortly before his ordination to the ministry, Hitchcock and Orra White were married and after ordination, the couple moved to Conway, Massachusetts where Hitchcock served as pastor from 1821–25 (Foose and Lancaster, 1981). Hitchcock continued to pursue scientific interests at Conway, preparing both geological and botanical papers for *The American Journal of Science*. In 1822, he expressed concern to Silliman that Thomas Nuttall, who was visiting the area, was "exploring the country minutely" and that "it would be a little mortifying if the facts that I have been collecting should appear in Philadelphia first" (Edward Hitchcock to Benjamin Silliman, September 22, 1822, President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives).

At this time, Hitchcock and Dennis Cooley were preparing the catalogue of Deerfield plants intended for the *American Journal of Science* (Edward Hitchcock to John Torrey, November 3, 1822, President Edward Hitchcock Papers, Box 6, Folder 12; Edward Hitchcock to Benjamin Silliman, October 17, 1822, President Edward Hitchcock Papers, Box 6, Folder 4, Amherst College Archives). Cooley then moved from Deerfield to Georgia, leaving the catalogue for Hitchcock to finish (Edward Hitchcock to Benjamin Silliman, October 17, 1822, President Edward Hitchcock Papers, Box 6, Folder 4, Amherst College Archives). Silliman delayed in publishing the manuscript, however, "lest objections be made that too much space was allowed to communications from a particular quarter" (Benjamin Silliman to Edward Hitch-

cock, December 5, 1822, President Edward Hitchcock Papers, Box 6, Folder 5, Amherst College Archives), and in 1823 returned the manuscript to Hitchcock, leaving “any further disposition of it to your better judgement” with the suggestion that the work should be revised as two papers with cryptogams treated separately (Benjamin Silliman to Edward Hitchcock, May 5, 1823, President Edward Hitchcock Papers, Box 6, Folder 5, Amherst College Archives). At least two manuscript volumes of Orra White Hitchcock’s botanical work survive from this period, a collection of watercolors of grasses and other flowering plants entitled *Herbarium parvum, pictum* dated “1817,18” and now in the Archives of Deerfield Academy (Jenny, 1987; Worman, 1989) and a sketchbook of fungi entitled *Fungi, selecti picti*, dated 1821 and now in the Smith College Archives. Figure 2 reproduces a representative page from the latter manuscript; thirteen different fungi are depicted on the page; all but one is identified at least to genus. The individual fungi are numbered, but the numbers are not always consecutive, ranging on this page from 14 to 61; the numbers thus may refer to numbered specimens in a collection or included in a list.

Meanwhile, in a second major paper on the geology of the region, Hitchcock (1823a) included “occasional Botanical notices” that related a number of plant species to underlying rock types and landforms, including a series of cryptogams associated with mica slate. His discovery in a hilly pasture of *Botrychium simplex* (Hitchcock, 1823b) was the “first new fern described by an American” (Tryon, 1969), and he also published observations on *Gyropodium coccineum*, a new genus and species of fungus described by Schweinitz and first seen at Deerfield by Dennis Cooley (Hitchcock, 1825). Orra White Hitchcock continued her work in scientific illustration, including drawings to accompany her husband’s publications and the drawings for Chester Dewey’s publications on the genus *Carex*. Contrary to Fernald (1950), *Carex hitchcockiana* was named by Dewey (1826) in honor of both Edward and Orra White Hitchcock, the “lady, to whom I am so greatly indebted for the figures which accompany this Caricography.”

In 1825, Hitchcock left the ministry, taking an appointment as the first Professor of Natural History and Chemistry at Amherst College. At Amherst, Hitchcock’s interests turned increasingly to the field of geology, a subject that, throughout his life, he at-

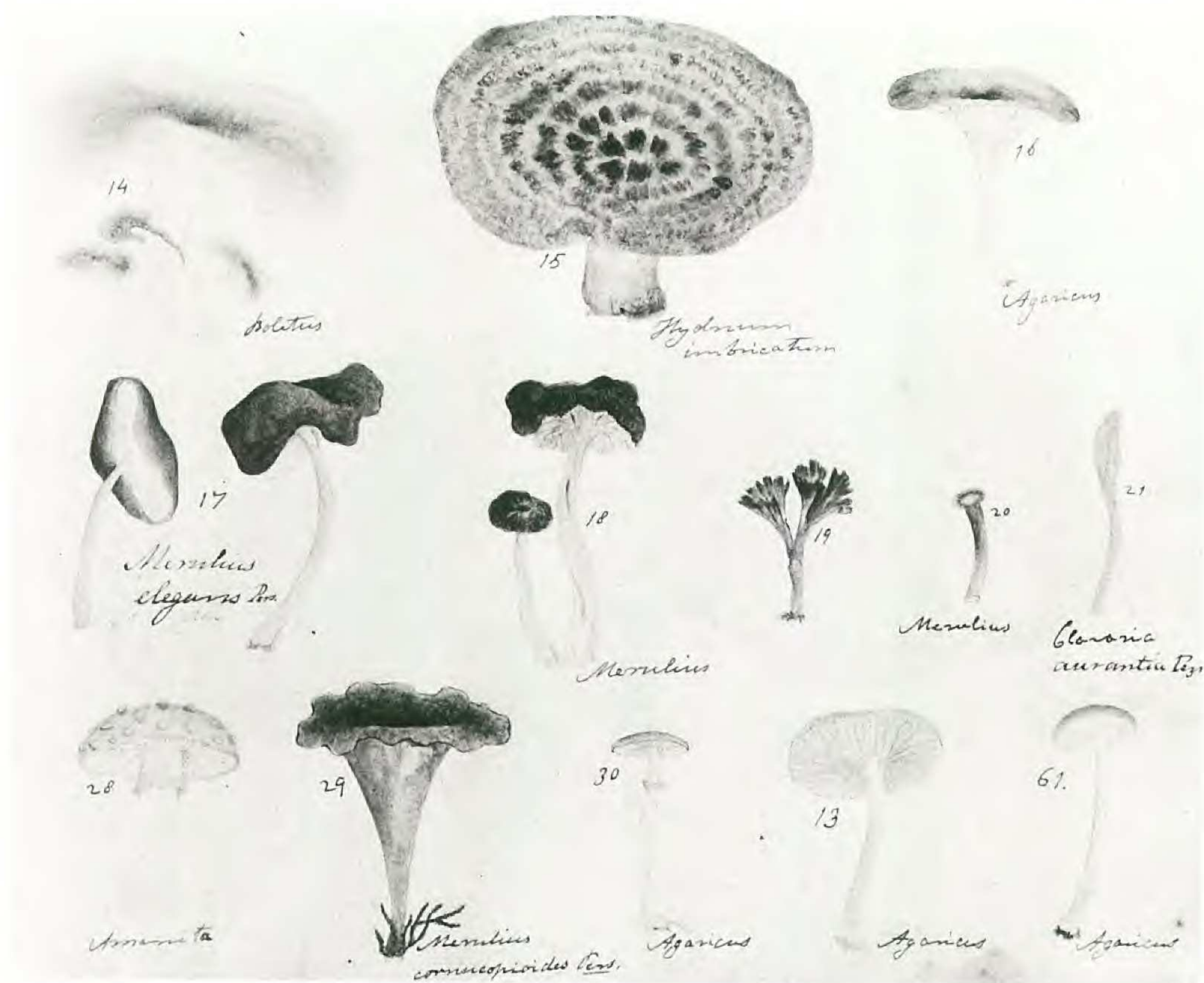


Figure 2. Representative page from Orra White Hitchcock's manuscript sketchbook *Fungi, selecti picti* (1821). Courtesy of Smith College Archives.

tempted to reconcile with the tenets of religion (Foose and Lancaster, 1981; Robinson, 1979). Nonetheless, he continued botanical studies and maintained a correspondence on his botanical discoveries in the Amherst area with Torrey. Among the latter were what he believed to be a new species of *Malaxis* (Edward Hitchcock to John Torrey, July 5, 1827, President Edward Hitchcock Papers, Box 6, Folder 12, Amherst College Archives) that he had found on Mt. Holyoke on a field trip with his botany class and which he hoped to publish as *Malaxis holyokea* "in the hope of exciting more zeal in natural history among the students here."

In 1829, at the request of the members of the Junior class who were attending his lectures in botany, Hitchcock published the *Catalogue of Plants Growing Without Cultivation in the Vicinity of Amherst College*. Apparently no copy of the Hitchcock-Cooley manuscript that Silliman declined to publish now exists; hence it is impossible to determine how that differed from the published

Hitchcock catalogue. The Hitchcock catalogue was intended to include “all the indigenous and naturalized plants, that have been discovered and ascertained, within forty or fifty miles of Amherst College” and, in addition, “such as are peculiar to the White Mountains and the sea coast of New England” plus “a few others mentioned on account of their being rare and interesting.” Examples of the latter include the prickly pear, *Cactus opuntia* L. (now *Opuntia humifusa* Raf.) from “East Rock, New Haven.”

Phenogamous plants, both angiosperms and gymnosperms, were listed alphabetically by genus, with species alphabetized within the genera. This resulted in such blatantly “unnatural” sequences as genera 197, 198, and 199 which are *Juncus*, *Juniperus*, and *Kalmia* respectively. Members of the class Cryptogamia were organized alphabetically by genera under orders Filices, Musci, Hepaticae, Algae, Lichenes, and Fungi with species alphabetized by genera under their respective genera. Excluding species from the White Mountains and the seacoast or included only because they were rare or interesting, the Catalogue included by Hitchcock’s own count 1447 species within 531 genera that occurred within 50 miles of Amherst. Of these, 997 species in 395 genera were phenogamous while 450 species in 136 genera were cryptogams.

Localities were given for rare plants in the vicinity, including sites attributed to Dewey, Eaton, and Porter. Some of these, including Eaton’s record of *Liquidambar styraciflua* from Northampton, Porter’s *Orontium aquaticum* from Southwick, and an unattributed report of *Listera cordata* from Plainfield, remain of considerable interest.

In 1830, Hitchcock was appointed to head a survey of the geology, mineralogy, botany, and zoology of Massachusetts (Foose and Lancaster, 1981). The initial report of the survey (Hitchcock, 1833) contained a catalogue of the flora of Massachusetts. This was organized according to a “Natural System of Prof. Lindley as adapted to North American Plants by Torrey” and based on Hitchcock’s 1829 Catalogue with additions and corrections along with lists published by Dewey (1829) and by Bigelow (1824) and a manuscript flora of New Bedford and Nantucket by Thomas A. Green. W. S. Tyler, who knew Hitchcock both as a teacher and as a colleague, observed (Tyler, 1873) that Hitchcock “did but one great work at a time. But he was never afraid of having too many smaller irons in the fire.” Nonetheless, the Massachu-

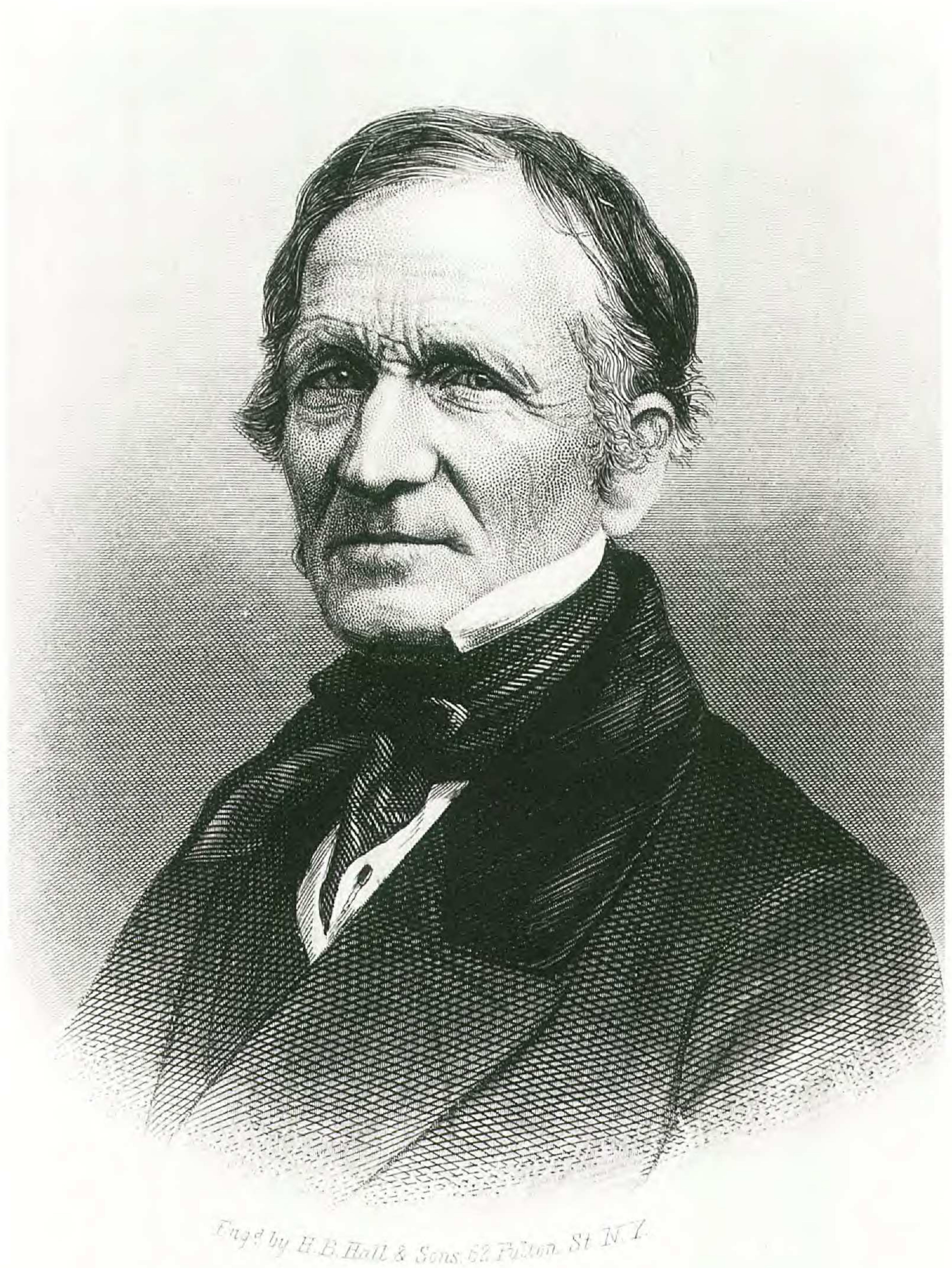
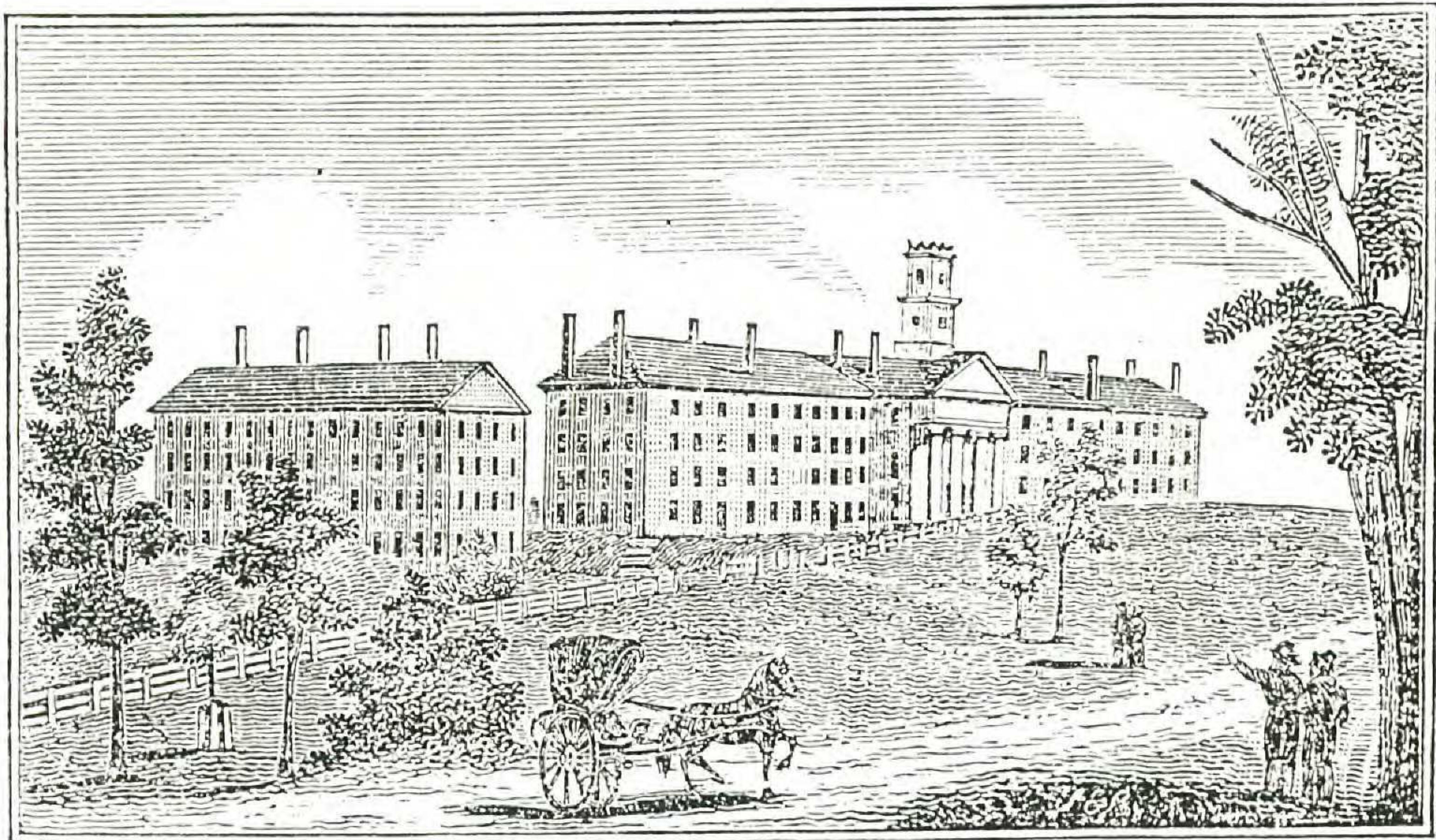


Figure 3. Edward Hitchcock, engraving in Tyler (1873). Courtesy of Forbes Library, Northampton, MA.

setts Catalogue was apparently Hitchcock's last botanical contribution. The report of the survey (Hitchcock, 1841) dealt only with the geology of Massachusetts, and in 1845, Hitchcock was appointed president of Amherst College, a position he occupied until 1854, when he returned to another decade of teaching, writing and research. The engraving included in Tyler's *History of Amherst College* (Figure 3) shows Hitchcock in his later years.

Hitchcock's plant collections, however, formed the "nucleus" of the Amherst College Herbarium (Goodale, 1932). This herbarium, if founded in 1829, the year of the publication of the Catalogue, was according to Ewan (1969) the second institutional herbarium established in the United States. [The first herbarium in the United States was apparently at the Academy of Natural Sciences in Philadelphia, an institution "destined to receive the nation's oldest plant collections" (Ewan, 1969).] Figure 4 is a view of Amherst College published in 1839 (Barber, 1839); the herbarium probably was located in the building with the tower. Day (1901) noted that the Amherst College herbarium contained "plants of local interest, many of which are no longer found growing in the vicinity," and Stone (1913) reinforced Day's statement in his assertion that "Some of the plants observed by Dr. Hitchcock nearly a century ago and included in this list have not been found since his time, and others have become rare." Archival materials related to the Amherst College Herbarium are virtually nonexistent at either Amherst College or at the University of Massachusetts, where the collections were incorporated in MASS in the 1950's. Those Hitchcock specimens I have seen have almost certainly been remounted at some time. They consist of a pressed plant or part of a plant taped to an herbarium sheet with a small handwritten label on discolored stock usually pasted in the lower left corner. The label contains the name of the plant and often a date and/or location; the labels seem to be in Hitchcock's hand, as seen in his correspondence at Amherst College. In at least one instance, the handwritten label is mounted attached to the specimen itself. The collector's name does not appear on the handwritten slip, but a printed label attached in the lower right contains the statement "ex Herb Edward Hitchcock, LLD."

There are, however, in MASS a group of specimens from the Amherst College herbarium that have been remounted in a manner similar to those from the Hitchcock collection with older



North-western view of Amherst College.

Figure 4. "North-western view of Amherst College," engraving in Barber (1839).

discolored handwritten labels pasted on the left and printed labels on the right. As in the Hitchcock specimens, the handwritten label does not identify the collector, but unlike the Hitchcock specimens, the printed label also bears no reference to collector. These anonymous collections may well represent the "few hundred species of plants in the vicinity . . . previously prepared, I believe, by members of the College" in Hitchcock's 1863 account; if so, they would also represent early 19th century plant collections from the area.

Edward Hitchcock and Orra White had eight children, two of whom died in infancy. One of their daughters, Emily Hitchcock Terry (1838–1921), was a pioneer illustrator of the Minnesota flora and an early contributor to *Rhodora* (Smith, 1992).

Hitchcock's 1829 Catalogue was not reprinted or revised until after his death; it then underwent three expansions and revisions in less than 40 years (Tuckerman and Frost, 1875; Cobb, 1887; Stone, 1913). It remains an essential document for understanding both the flora and the development of botanical sciences in the Connecticut Valley region of western Massachusetts in the early 19th Century.

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